What is claimed is;

1. An electromagnetic clutch having an excitation coil, a rotor with a rotatably supported friction surface and an armature that includes a disk with a friction surface facing opposite said friction surface of said rotor, which causes said disk to be held onto said rotor by an electromagnetic force generated as power is supplied to said excitation coil, wherein:

a magnetism blocking portion for blocking a flow of magnetism is formed to extend along a circumferential direction at an approximate middle position of said disk of said armature along the radial direction; and

a plurality of magnetism blocking portions for blocking a flow of magnetism are formed to extend along the circumferential direction at varying positions set along the radial direction at said friction surface of said rotor, a plurality of magnetic poles are formed at positions along the radial direction between said friction surface of said rotor and said friction surface of said disk of said armature, and a facing area of an outer circumference-side magnetic pole is set smaller than the facing area of an inner circumference-side electromagnetic pole.

2. An electromagnetic clutch according to claim 1, wherein:

said magnetism blocking portion formed at said disk is constituted of a plurality of discontinuous longitudinal holes formed to extend along the circumferential direction.

3. An electromagnetic clutch according to claim 1, wherein:

said magnetism blocking portions at said friction surface of

said rotor are longitudinal holes, grooves or a combination thereof formed to extend along the circumferential direction.

4. An electromagnetic clutch according to claim 1, wherein:

when said magnetic poles include a first pole, a second pole, a third pole and a fourth pole, said first hole and said second pole constitute outer circumference-side magnetic poles and said third pole and said fourth pole constitute inner circumference-side magnetic poles, and the facing area of said second pole is set to 1 ~ 1.05, the facing area of said third pole is set to 1.05 ~ 1.10 and the facing area of said fourth pole is set to at least 1.05 relative to the facing area of said first pole set to 1 for reference.

5. An electromagnetic clutch according to claim 1, wherein:

the facing area of said first pole ranges over at least 800mm.

6. An electromagnetic clutch according to claim 1, wherein:

said friction surface of said disk of said armature and said friction surface of said rotor are set so that the distance between said friction surfaces becomes wider toward the inner circumference side relative to the distance toward the outer circumference side.

7. An electromagnetic clutch according to claim 6, wherein:

said friction surface of said disk of said armature and said friction surface of said rotor are set so that the difference in height between the outer circumference side and the inner circumference side is 30 ~ 80μm.

8. An electromagnetic clutch according to claim 1, wherein:

a chromate film is formed over said disk of said armature.

9. An electromagnetic clutch according to claim 2, wherein:
a chromate film is formed over said disk of said armature.

10. An electromagnetic clutch according to claim 6, wherein:
a chromate film is formed over said disk of said armature.

11. An electromagnetic clutch according to claim 7, wherein:
a chromate film is formed over said disk of said armature.